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Rev. 07/10/02

170944

VIA TELEFAX AND
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

October 19, 1998

Ranjit Machado
Environ International Corporation
4350 N. Fairfax Drive, Suite 300
Arlington, VA 22203

Dear Mr. Machado:

The U.S. Environmental Protection Agency (EPA), the City of Chicago, and Technical Outreach Services for Communities (TOSC) have reviewed the July 1998 "Risk Management Plan- Dutch Boy Site". The EPA hereby approves the document with the following modifications, which are listed in Section A below:

A. **MODIFICATIONS**

1. Page 1, Paragraph 3, third sentence- this sentence is replaced with: "The depth of contamination exceeding the cleanup level (CUL) of 1400 ppm was two feet or less in 18 of the 32 sample locations where the boreholes were extended to a depth of more than two feet. At 14 sample locations, the depth to which lead was found at concentrations exceeding the cleanup level was greater than two feet and as much as 7 feet below ground surface."

2. Page 1, Paragraph 3, fourth sentence- this sentence is replaced with: "Based on the data presented in the November 19, 1997 "Draft Extent of Contamination" Report, the volume of soil in the unpaved areas that exceeds the CUL is estimated to be 5000 cubic yards." Table 2 is also revised as shown in Enclosure 1.

3. Page 1, Paragraph 4, first sentence- "and excavation and removal of soil contamination with lead above the cleanup level of 1400 ppm" is added to the end of this sentence.

4. Page 1, Paragraph 5- this paragraph is rewritten as follows:

"The most appropriate technologies were engineering/institutional controls through containment of the Site with a compacted soil cover, stabilization and solidification of the contaminated soil matrix, which immobilizes the lead, and excavation/treatment/disposal off-site at RCRA Subtitle C landfill. Complete excavation to 1400 ppm lead of the unpaved, contaminated soils and engineering/institutional controls for the paved, contaminated soils were

10. Add Figure ES-1, as follows:

"SCHEDULE FOR REMEDIAL DESIGN AND REMEDIAL CONSTRUCTION START FOR PREFERRED ALTERNATIVE

Event/Document	Due Date
60 Percent Design, including draft QAPP, HSP, Cost Estimate, Project Schedule	December 15, 1998
Final Design, including final QAPP, HSP, Cost Estimate, Project Schedule	30 days after receipt of EPA comments on 60 % Design
Begin Construction of Preferred Alternative	April 30, 1999
Complete Construction of Preferred Alternative	Per schedule in approved Final Design"

11. Page 8, first full sentence- this sentence is deleted from the report.

12. Page 8, "Remedial Strategies", Second Paragraph, first sentence- "and excavation" is added to the parenthetical phrase in this sentence.

13. Page 9, first sentence- "or essentially eliminated via excavation and proper disposal of lead-contaminated soils" is added to the end of this sentence.

14. Page 9, "Containment Technologies", Second Paragraph- the third and fifth sentences are deleted from this paragraph.

15. Page 12- a new section is added to the bottom of this page as follows:

"D. Excavation/Disposal

Excavation removes all lead above a given cleanup level (for the Dutch Boy Site, 1400 ppm). Excavated areas are then backfilled. The excavated material is treated, as necessary, and is transported to an appropriate landfill for proper disposal."

16. Page 13, first sentence- "excavation/disposal" is inserted between "immobilization," and "and".

17. Page 13, third sentence- "and excavation/disposal" is added to the end of this sentence.

18. Page 16, first line- "the Peoria Disposal Company's" is replaced with "a".

19. Page 16, "Alternative 3", third sentence- this sentence is replaced with "Excavated soil would be treated and disposed off-site."

20. Page 16, "Alternative 4", second sentence- this sentence is replaced with "Excavated soil would be treated and disposed off-site."

21. Page 17, First Paragraph, third sentence- "therefore, differentiation between alternatives is based primarily on cost" is replaced with "; however, only Alternative 4 meets all ARARs and is fully compatible with projected future uses of the unpaved areas of the Site."

22. Page 17, Second Paragraph, fourth sentence- this sentence is deleted.

23. Page 17, Second Paragraph, last sentence- "pursuant to applicable regulations" is inserted between "removed" and "under" in this sentence.

24. Page 17, Third Paragraph, sixth sentence- this sentence is deleted.

25. Page 18, First Full Paragraph, third and fourth sentences- these sentences are replaced with: "This alternative also costs the most, but is the only alternative that meets all ARARs and is the most compatible with projected future uses of the unpaved areas of the Site."

26. Page 18, Section B, "Recommended Alternative", First Paragraph- this paragraph is replaced with:

"The recommended alternative for the Dutch Boy Site is Alternative 4. This alternative provides for excavation and proper disposal of all soils in the unpaved areas that exceed the applicable on-site soil cleanup level of 1400 ppm lead. This alternative eliminates the potential for inhalation and ingestion of unacceptable levels of lead in unpaved, on-site soils. This alternative also includes a provision for repair of, and O&M for, on-site paved surfaces and deed restrictions to ensure that exposure does not occur to soil with lead concentrations exceeding the CUL, and that any intrusive future activities are properly monitored and any contaminated soil that is so generated is disposed of properly. Additionally, the Debris Pile and contaminated surrounding soils, if any, are removed and properly disposed of under the preferred alternative. The USTs will be closed as required by applicable laws and regulations. Alternative 4 meets all ARARs and is the

most compatible with anticipated future uses of unpaved, on-site soils."

27. Page 18- Section C is added as follows:

"C. Implementation

The schedule for implementation of the Recommended Alternative is outlined in Figure ES-1. The design documents (60% and 100%) for Alternative 4 will include an RD/RA Work Plan, Plans, Specifications, QAPP, HSP, Cost Estimate, and Project Schedule. The QAPP will include a plan for sampling under paved areas of the Site."

B. COMMENTS NOT REQUIRING MODIFICATIONS

This section presents comments that do not constitutemodifications but clarify or supplement the report or address future implementation issues.

1. General

   a. In order to comply with ARARS, Alternatives 1 through 3 would need to utilize a RCRA Subtitle C cap or equivalent. This requirement applies due to the fact that some of the soils failed the TCLP test for lead, thus making these soils characteristic hazardous waste. This comment was not required as a modification since the requirement for a RCRA Subtitle C cap would only increase the costs of Alternatives 1 through 3 and, thus, only further support the selection of Alternative 4 as the Recommended Alternative.

   b. The term "principle threat waste" must be excluded from all future site documents; the applicable on-site cleanup level is 1400 ppm lead. This comment is not a modification since it does not change the selection of the Recommended Alternative.

   c. At some point in the near future, a much more comprehensive site history must be submitted to EPA. Although not specifically required under the Order, such a document would greatly assist in future site decisions, considerations, and implementation issues.

2. TOSC "Section II" Comments

   These comments are include in this submittal as Enclosure 1.

3. Cost Estimates

EPA recognizes that some of the modifications listed above may serve to increase or decrease the costs for the various alternatives. Rather than modify the cost estimates at this time, the cost estimate for the preferred alternative will be updated during the remedial design phase for the on-site work.

C. CITY OF CHICAGO COMMENTS

The comments of the City of Chicago are included in this submittal as Enclosure 2. In general, the City of Chicago comments are consistent with the modifications listed above and provide further reasons for selecting Alternative 4 over Alternative 2 for unpaved on-site soils. The primary additional modification requested by the City of Chicago is removal of all soils with lead concentrations greater than 1400 ppm under paved surfaces. Under the Order for removal actions at the Dutch Boy Site, EPA does not believe it has the authority to order this additional modification at the current time.

The schedule in Figure ES-1 will govern the Remedial Design for and subsequent implementation of the Recommended Alternative. This is EPA's final comment letter regarding the RMP for on-site actions. EPA encourages you to reprint the document so as to incorporate the modifications; however, any reprinting of the document will not serve to extend the schedule in Figure ES-1 in any way. Please contact me at (312) 886-4742 if you have any questions concerning this letter.

Sincerely,

Brad Bradley
On-Scene Coordinator

Enclosures

cc: David Reynolds, City of Chicago
Diane Lickfelt, TOSC
Tony Davenport

CENTER FOR Hazardous Substance RESEARCH

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To: Maple Park/Victory Heights Advisory Council
From: Technical Outreach Services for Communities (TOSC)
Date: September 10, 1998
Subject: Comments on the document entitled "Risk Management Plan, Dutch Boy Site" dated July 1998

Pursuant to the request of the Maple Park/Victory Heights Advisory Council, the Technical Outreach Services for Communities (TOSC) Program at Michigan State University has prepared a summary of our comments and concerns about the ENVIRON "Risk Management Plan, Dutch Boy Site" dated July 1998. The goal of this document is to provide an independent assessment of the Risk Management Plan (RMP) to ensure that the clean-up work at the Dutch Boy Site is protective of human health.

The summary is presented in two sections. The first section we have addressed those issues which have a direct impact on the choice of a removal/remedial solution. The second section describes those issues that have less direct impact on the implementation of the RMP and the choice of a removal/remedial option.

SECTION I

The concerns and comments listed in this section are those that TOSC believes have the most impact on the choice of solution proposed in the RMP and, therefore, are of the greatest importance.

The following changes should be made to the Executive Summary:

1. Page 1, paragraph 3, line 2 reads: "Lead was detected in concentrations above the 1,400 mg/kg threshold in most of these boreholes."

   This statement should read: "In the unpaved area, lead was detected in concentrations above the clean-up goal (CUG) of 1,400 mg/kg in 25 of 33 surface (0.0 to 0.2 feet below ground) soil samples. In the subsurface soils (depths > 0.2 ft), lead was detected at concentrations greater than 1,400 mg/kg in of 24 of the 32 boreholes."

2. Page 1, paragraph 3, line 3 reads: " The depth of contamination exceeding the threshold was generally two feet or less although in some boreholes contamination extended down to seven feet below ground."

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This statement should read: "The depth of contamination exceeding the CUG was two feet or less in 18 of the 32 sample locations where the boreholes were extended to a depth of more than two feet. At 14 sample locations, the depth to which lead was found at concentrations exceeding the CUG was greater than 2 feet and as much 7 feet below ground surface."

3. Page 1, paragraph 3, line 5 reads: "The total volume of soil exceeding the threshold is approximately 4,500 yd^3."

   It should read: "Based on the data presented in the November 19, 1997 "*Draft* Extent of Contamination" report, the volume of soil in the unpaved areas that exceeds the CUG is estimated to be 5,000 yd^3."

   An explanation of the use of 5,000 yd^3 in place of 4,500 yd^3 is provided in the revised version of Table 2 (attached).

4. Page 1, paragraph 3, line 6 reads: "Limited lead contamination was encountered under some of the paved sections of the Site."

   It is our understanding that samples collected in the paved areas were obtained by boring through existing cracks and crevices. Additionally only surface soils were sampled. This approach does not follow standard protocol and does not provide a sample that is truly representative of the soil underlying the pavement. As such, the data for lead concentrations in the paved areas is questionable.

5. Page 1, paragraph 5, line 1 reads: "The most appropriate technologies were engineering/institutional controls through containment of the Site with a compacted soil cover and stabilization and solidification of the contaminated soil matrix which immobilizes the lead."

   This should read: "Those technologies which remained for final consideration were 1) engineering/institutional controls through containment of the Site, with a compacted soil cover (that meets the technical criteria for a RCRA cap), and 2) partial or complete excavation of soils that exceed the CUG and subsequent stabilization and solidification of the excavated, contaminated soil to immobilize the lead."

6. Page 1, paragraph 5, line 4 reads: "Combinations of these technologies were all determined to be protective of human health and the environment..."

   This statement should read: "Only complete excavation of the unpaved, contaminated soils and engineering/institutional controls for the paved, contaminated soils were determined to be protective of human health and the environment."

   Further comments about alternatives 1 through 3 and the contaminated soils underlying the paved areas are presented later in this document (See comments 7-9, 14, Section I).

7. Page 2, paragraph 2, line 2 reads "...disposal of the top two feet of the soil in the principal threat waste area in the vicinity of the loading..."

   It is our opinion that the discussion of *principal threat waste* and any related alternatives is irrelevant. A CUG of 1,400 has been established by the U.S. EPA for this site and this is the only level on which remedial actions should be based.

8. Page 2, all of paragraph 2 and Table ES-1

   Because the concept of *"principal threat waste"* is not an issue at this site, alternative 2 must be eliminated and this entire paragraph should be removed. Furthermore, alternatives 1, 2 and 3 are inconsistent with the Unilateral Administrative Order (UAO) in that these alternatives are not protective of human health. It is our opinion that, because the stated alternatives are to serve as final actions, they must be consistent with *remedial* actions. To meet the remedial action, any soil cover, whether referred to as a cap or as fill, must be technically equivalent to a RCRA cap. Alternatives 1 through 3 would not meet these criteria.

   Because they are not consistent with the UAO, the first three alternatives should be eliminated from consideration, leaving alternative 4 as the choice for this site. Even alternative 4 needs some modification in order to protect human health, but modifications will be addressed later in this document (See comment 9, Section I).

   Because only one of the alternatives is viable, cost is no longer an issue.

9. Based on the information presented in comment #7, the final paragraph on page 2 should begin: "The most effective protective remedy was determined to be excavation of all unpaved area soils with lead concentrations greater than 1,400 mg/kg lead concentration, stabilization/solidification and disposal off-site..."

   Added to this final paragraph should be: "Because the presently available data indicates that approximately 40% of the regions below the paved areas exhibit lead concentrations above the CUG, the contamination of soil in the paved areas will also be addressed."

   It is our opinion that the two options for the paved areas are:

   a. Fill in the cracks, crevices, and holes in the pavement and, while the site is inactive, return at seasonal intervals to ensure that the pavement remains intact (i.e., acting as a barrier to prevent lead migration), or

   b. Design and implement a more comprehensive sampling plan that includes a statistically significant number of borings through the paved areas (for adequate delineation of contamination) and assures that each boring completely penetrates the pavement and the fill below it. If the new soil data indicates that lead concentrations

do not exceed the CUG, then no action in the paved areas would be needed. However, if lead were detected at concentrations above the CUG then the actions outlined in option "a" or, possibly removal of the contaminated soil, would have to be accomplished.

These two options could be added to the Executive Summary and discussed in detail in Section IV of the RMP.

10. TABLE ES-1 (no page number given)

Alternative 4 in this table should be changed to reflect the above-referenced changes; namely the inclusion of actions pertaining to the paved areas.

The remaining comments/concerns pertain to the main text of the RMP.

11. Pages 7-8, Section IV.B, paragraphs 1 and 2.

As indicated in comment #7, above, the discussion of *principal threat waste* is irrelevant. Thus, Section IV.B. should be eliminated.

12. Page 8, Section IV.C., paragraph 2, line 1 reads: "Consistent with US EPA's guidance on principal threat waste..."

This sentence discusses *principal threat waste*, and, therefore, for the reasons given above, should be removed from the RMP.

13. Page 9, Section V.A., paragraph 2, line 4 reads: "Since lead is non-reactive, relatively insoluble, and nonvolatile, a RCRA-style cap is not required."

EPA *Engineering Bulletin* (EPA/540/S-97/500) states: "In acidic, sandy soil, the cationic metals are more mobile. Under conditions that are atypical of natural soil (e.g., pH<5 or >9; elevated concentration of oxidizers or reducers; high concentrations of soluble organic or inorganic complexing or colloidal substances), but may be encountered as a result of waste disposal or remedial processes, the mobility of these metals may be substantially increased."[1] Additionally, colloidal lead is mobile. While we do not know if the lead is present in a colloidal form or if the soil is acidic, we do know that lead is present in some locations at depths of greater than four feet. There are only a limited number of scenarios that would account for this. Either the lead was mobile and migrated or the lead is not mobile but was buried at considerable depths. Since there are no scientific reasons to allow us to eliminate the first option, one cannot assume that the lead is immobile (and therefore, that a RCRA-style cap would not be required).

Additionally, as mentioned in Comment 5 (Section I), even if a RCRA cap was not used, a cap at the site would have to be the technical equivalent of a RCRA cap.

[1] USEPA, 1997, *Engineering Bulletin: Technology alternatives for the Remediation of Soils Contaminated with As, Cd, Cr, Hg, and Pb*, EPA/540/S-97/500.

Enclosure 1
TOSC Comments - Section II

14. Pages 17 and 18, Section VII.A., paragraphs 1-5.

    Discussions about alternatives 1 through 3 should be modified to reflect that they are not protective of human health.

    It should be noted that we have not proposed changes to alternatives 1 through 3 because we believe that they are not protective of human health and do not meet ARARs. However, if the decision was made (and approved by U.S. EPA) to try to make revisions to alternatives 1 through 3, TOSC requests another review of the RMP.

15. Irrespective of the alternative chosen, it is our opinion that the deed for the Site will need to be restricted to industrial use. More restrictive restrictions may be necessary, depending upon the removal/remedial option used at the Site. The deed should also state the locations and concentrations of lead in any soils left on Site.

16. Prior to the implementation of the approved removal/remedial option, a design document should be submitted. This documentation should contain engineering specifications and details about (but not limited to):

    - the excavation of all soils in the unpaved areas that contain lead at concentrations greater than 1400 mg/kg
    - the treatment and disposal of soil off-site
    - confirmation sampling and analysis
    - sampling of the paved areas, contingency strategies in the event that soils having lead concentrations greater than 1,400 mg/kg are found in the paved areas
    - tank removal
    - debris disposal.

    This design document should be subject to standard review procedures, including a comment period.

SECTION II

The comments presented in this section have less impact on the choice of a removal/remedial action for the site. Nevertheless, we believe that it is important to point out what, in our opinion, are deficiencies and/or misleading statements.

1. Page 3, Section II.A. paragraph 2, line 4 reads: "...ENVIRON prepared the *Extent of Contamination Summary, Dutch Boy Site, Chicago Illinois* (EOC) dated November 19, 1997."

    This title of the November 19, 1997 document is inconsistent with the title listed in Section VIII, REFERENCES (page 19) and with the title that appears on cover of the document itself. Listing this document as a summary and without "draft" at the beginning is

misleading. It implies that the November 19 document is a final version. U.S. EPA has informed us that the EOC has not been completely accepted, so making the notation that the November 19 document is still a draft is very important. The title should be corrected in the RMP. U.S. EPA refers to it as a second draft so the most appropriate title would be. "*Second Draft* Extent of Contamination Survey, Dutch Boy Site, Chicago Illinois."

2. Page 4, Section II.B., paragraph 2, lines 5-7 reads: "Although most of the properties surrounding the Site are currently abandoned or vacant, it is likely that historical activities at these facilities have influenced lead concentrations in soils in the Site vicinity."

   The distinction should be made that most of the *previously industrialized* properties surrounding the Site are currently abandoned or vacant, because most of the properties, as a whole, surrounding the site are residential (see Figure 5 in the November 19, 1997 2^{nd} *Draft* EOC). Additionally, no evidence has been presented to support the second portion of the above statement (i.e., "it is likely that historical activities at these facilities have influenced lead concentrations in soils in the Site vicinity."). It is only conjecture and, therefore, should be omitted. Unless evidence is provided to back up this statement, it would be best to strike this statement from future versions of the RMP or other future documents.

3. Page 5, Section III, paragraph 2, lines 4-5 reads: " The areas most effected *(sic)* are the former rail spurs leading to the loading dock in the northwestern portion of the Site. Figure 3 shows the extent of contamination exceeding the cleanup goal."

   It would be more accurate to say that the most affected areas are the unpaved portions in the western region of the site and the paved areas under and adjacent to the former mill building. Additionally, Figure 3 is not sufficiently illustrative of the extent of contamination. We have scanned and modified Figure 4 to create three figures that better depict the extent of vertical and horizontal contamination (see attached).

4. Page 5, Section III, paragraph 2, lines 5-6 reads: "Surface soil (i.e., 0.0 – 0.2 feet below ground surface) lead concentration on the Site are in the 5,000 to 10,000 mg/kg range."

   When considering the area of the former rail spurs leading to the loading dock, it is more accurate to say that the surface soil lead concentration ranges from 330 to 17,200 mg/kg. But as the soil in the entire unpaved area, along with the sediments in the vicinity of the former Mill Building, should be considered, the range of lead concentrations is 330 to 25,000 mg/kg. The following statement should also be added: "The highest concentration, 300,000 mg/kg, of lead detected in On-Site soil was detected in the sample collected from SS10 at a depth of 0.2 to 1 feet." It is significant, and worthy of mention, that this concentration is equivalent to **30% lead** and was detected just below the ground surface.

5. Page 5, Section III, paragraph 3

   There are numerous problems with this paragraph. First of all, there is insufficient sampling of the unpaved areas to make such sweeping statements as "there are very few locations where soil lead concentrations exceed 1,400 mg/kg or that elevated areas... were not contaminated by Site operations. Secondly, since there is no scientific basis on which to

conclude that lead is not susceptible to migration (no pH data for soils, etc.) or that contamination under the paved areas is limited; the conclusion that the paved areas do not need to be addressed can not be made.

6. Page 7, Section IV.A., paragraph 1, line 6 reads: "This procedure (called the method of Thiessen's polygons) assumes that..."

   The Thiessen method is inappropriate since this method attempts to allow for non-uniform distribution of data by providing a weighting factor for each sampling point. The method does not allow for orographic influences and assumes a linear relationship between concentrations obtained at sampling locations and assigns each areal segment to the nearest sampling location. As such, while this method could be used to make cost estimates, it should not be used to delineate the extent of contamination or to determine what soils will be excavated.

7. p. 8, Section IV.C., paragraph 2. ENVIRON correctly states that "other issues and problems .... are the final disposal of underground storage tanks (USTs) and the debris pile".

   It should be noted that the tanks must be sampled before a remedial option for the UST(s) can be proposed. Additionally, during excavation of the tanks, the soil surrounding the tanks will need to be sampled to ensure that contamination of this material has not occurred. Depending on the final disposal method for the debris pile, additional sampling of this material may be required.

8. p. 14, Section IV.A.1., line 4. ENVIRON states that there are "low levels of asbestos" in the materials present in the debris pile, and that due to the "low levels of asbestos, disposal in a Subtitle D landfill would be feasible."

   Concentrations ranging from 4-11% (see EOC Report, dated November 19, 1997) are not low levels. Has sufficient information been gathered to say that this material can be disposed of at a Subtitle D landfill?

9. Table 2 (no page number given)

   In reviewing the data in this table, three errors were found. We have attached a revised version of Table 2, correcting these errors and providing an explanation for the suggested changes (see attached revised Table 2). While the data for SS42 is inconsistent with Figure 4, the error may actually be on the figure and not in the table. Nevertheless, it was more advantageous to use this revised Table 2 to point out the problem. Although not stated on our revised table, correcting these errors slightly alters the total volume of soil to be excavated. Since these volumes should only be used in making cost estimates, not in determining the final volume of soil to be excavated (confirmation samples collected in the floors and sidewalls of the excavation site will be necessary for that), these changes are relatively inconsequential.

10. Tables 3 and 4 (no page numbers given)

As referenced above, we have not discussed Alternatives 1 or 2 in detail. Nevertheless, it should be noted that a 3:1 slope is proposed for the final siting of the backfilled soils. Using a 3:1 slope would result in mounds of soil some 20 feet above ground surface. Soils sloped at a 3:1 ratio would be difficult to maintain and would be subject to erosion. It is likely that large mounds were not actually what ENVIRON meant to propose and, as such, their proposal needs to be stated more clearly.

cc: *Brad Bradley, U.S. EPA*
Noemi Emeric, U.S. EPA

Table 2 (revised by TOSC)
Summary of Data from Unpaved Area Boreholes
Dutch Boy Site: chicago, Illinois

Unpaved Area Borehole	Area Represented (square ft.)	Maximum Depth (feet)	Volume of Soil 0-2 feet (cubic yards)	Volume of Soil > 2 feet (cubic yards)	Total Volume (cubic yards)
SS01	2455	2	182	0	182
SS02	1544	2	114	0	114
SS03	1792	2	133	0	133
SS04	1165	2	86	0	86
SS05	1619	2	120	0	120
SS06	1231	4	91	91	182
SS07	1216	3	90	45	135
SS08	1195	7	89	221	310
SS09	1296	5	96	144	240
SS10	1197	5	89	133	222
SS11	1318	6	98	195	293
SS12	1212	7	90	224	314
SS13	1244	7	92	230	323
SS14	1056	2	78	0	78
SS15	1345	2	100	0	100
SS16	1073	2	79	0	79
SS17	2145	3	159	79	238
SS18	1490	4	110	110	221
SS31[a]	**871**	**5**	**65**	**97**	**161**
SS32	567	2	42	0	42
SS33	1478	2	109	0	109
SS34	952	2	71	0	71
SS36[b]	**3209**	**2**	**238**	**0**	**238**
SS37	929	2	69	0	69
SS38	1541	2	114	0	114
SS40	1426	2	106	0	106
SS41	1549	2	115	0	115
SS42[c]	**1530**	**2**	**113**	**0**	**113**
SS45	1501	2	111	0	111
SS48	834	2	62	0	62
SS49	1249	2	93	0	93
SS50	718	2	53	0	53
SS51	854	2	63	0	63
Totals	44801		3319	1571	4890

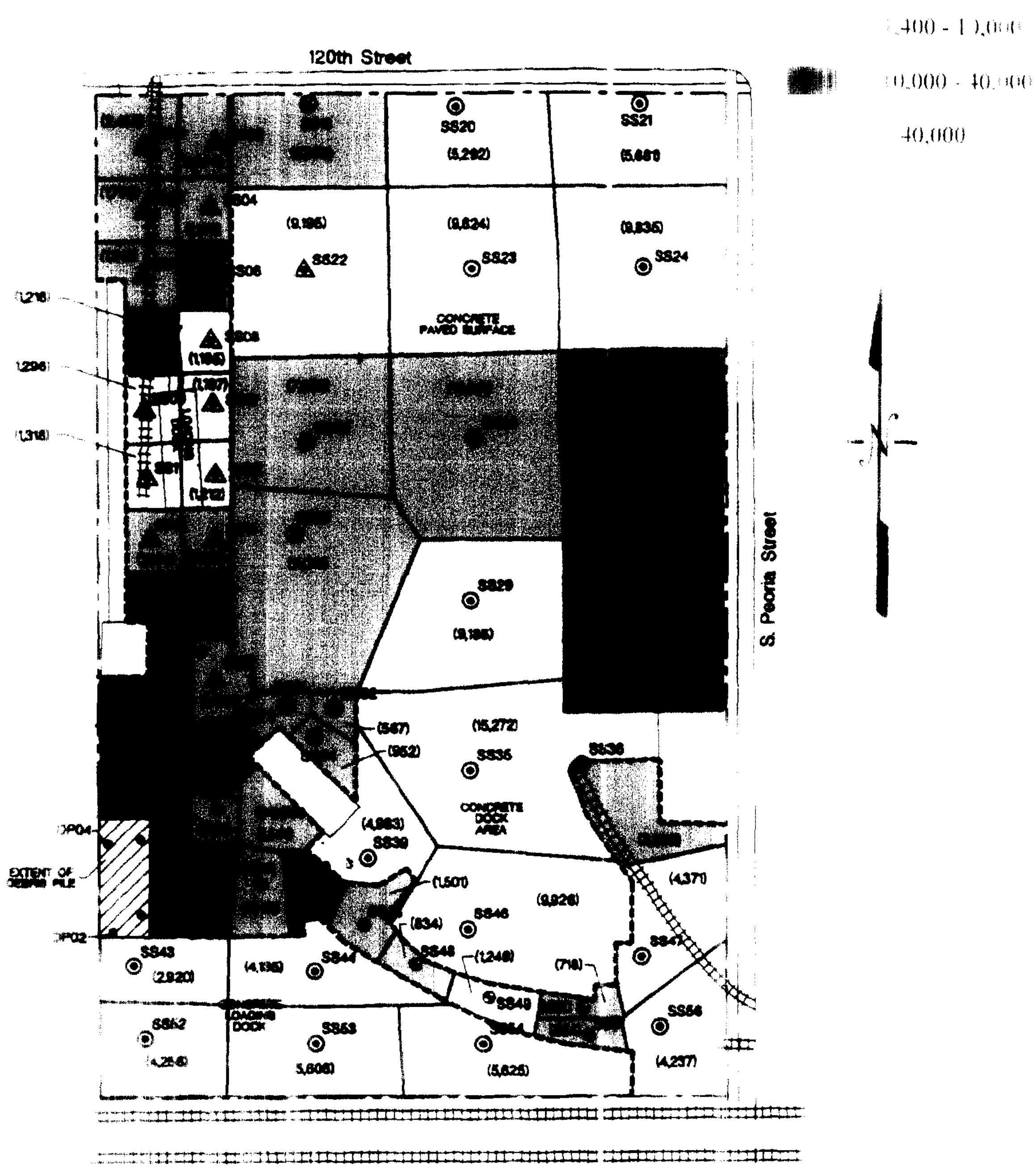
Notes:

[a] In the original ENVIRON RMP, the volume of soil greater than 2 feet was neglected.

[b] In the original ENVIRON RMP, this soil sample was not included, even though it has contamination greater than 1400 ppm.

[c] The area listed in the Table 2 of the RMP conflicts with the area listed in Figure 4.

Concentration mg/kg
0 to 2' Below Grade



EXPLANATION

- Soil core to 5 feet below base of fill
- Soil core to base of fill
- Soil core to base of fill includes asbestos analysis
- Debris sample
- Sediment sample
- Soil sample from below sub-basement
- Maximum depth (in feet) at which lead was detected in soils >1400 mg/Kg
- NE No exceedence of 1400 mg/kg detected
- NC No sample collected

——— Boundary representing extent of contamination associated with specific boreholes

– – – – Boundary between paved and unpaved areas

(2,455) Area of polygon in square feet (ft^2)

0 100 200
Scale in Feet

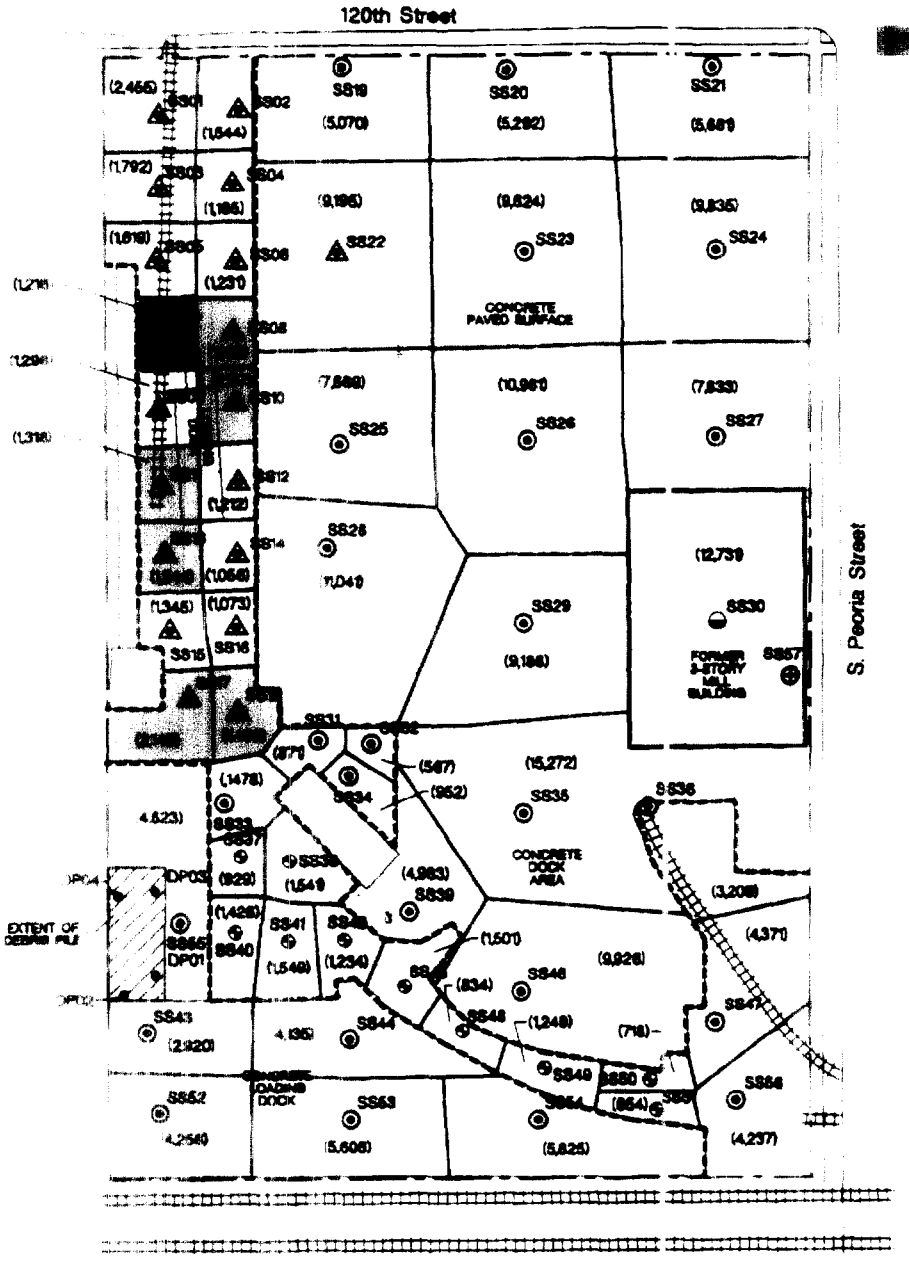
NOTE: Sampling intervals at each core location are detailed in report.

ENVIRON

BOREHOLE-BASED AREAL EXTENT OF CONTAMINATION POLYGONS
DUTCH BOY SITE
CHICAGO, ILLINOIS

Figure 4

Lead Concentration mg/kg
2' to 4' Below Grade



EXPLANATION

- Soil core to 5 feet below base of fill
- Soil core to base of fill
- Soil core to base of fill includes asbestos analysis
- Debris sample
- Sediment sample
- Soil sample from below sub-basement
- 2-1 Maximum depth (in feet) at which lead was detected in soils >1,400 mg/Kg
- E No exceedence of 1,400 mg/Kg detected
- C No sample collected

——— Boundary representing extent of contamination associated with specific boreholes

– – – – Boundary between paved and unpaved areas

(2,455) Area of polygon in square feet (ft^2)

0 100 200
Scale in Feet

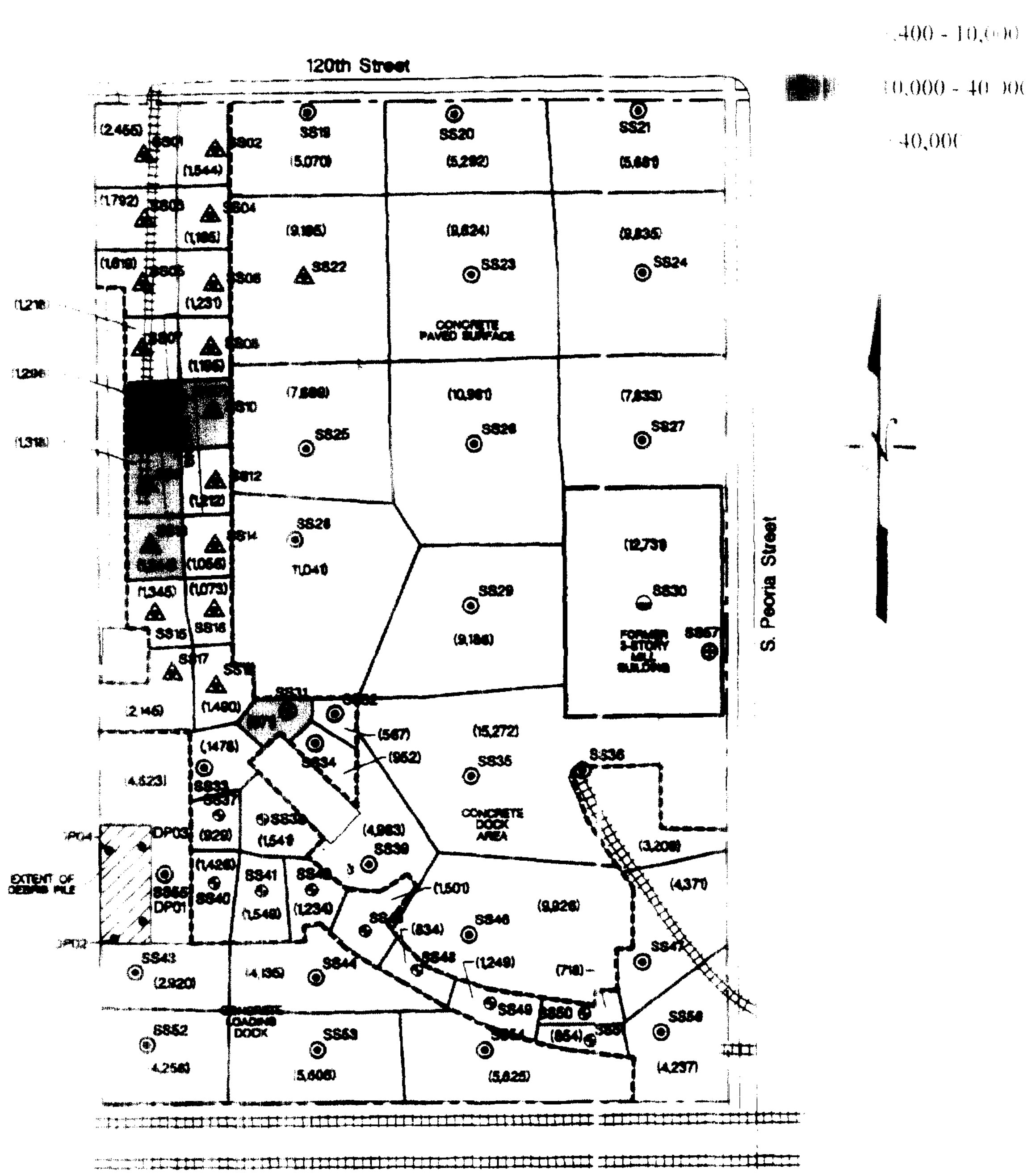
NOTE: Sampling intervals at each core location are detailed in report.

ENVIRON

BOREHOLE-BASED AREAL EXTENT OF CONTAMINATION POLYGONS
DUTCH BOY SITE
CHICAGO, ILLINOIS

Figure 4

Concentration mg/kg
4' Below Grade



EXPLANATION

- Soil core to 5 feet below base of fill
- Soil core to base of fill
- Soil core to base of fill includes asbestos analysis
- Debris sample
- Sediment sample
- Soil sample from below sub-basement
- Maximum depth (in feet) at which lead was detected in soils >1400 mg/Kg
- NE No exceedence of 1400 mg/Kg detected
- NC No sample collected

Boundary representing extent of contamination associated with specific boreholes

Boundary between paved and unpaved areas

(2,455) Area of polygon in square feet (ft^2)

0 100 200

NOTE: Sampling intervals at each core location are detailed in report.

ENVIRON

BOREHOLE-BASED AREAL EXTENT OF CONTAMINATION POLYGONS
DUTCH BOY SITE
CHICAGO, ILLINOIS

Figure 4

Enclosure 2
City of Chicago Comments

August 31, 1998

VIA FACSIMILE AND U.S. MAIL

City of Chicago
Richard M. Daley, Mayor

Department of Environment

Henry L. Henderson
Commissioner

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Mr. Brad Bradley
Project Manager
U.S. EPA, Region V
77 West Jackson Blvd., SR-J6
Chicago, IL 60604

RE: City of Chicago's comments -- NL Industries, Inc.'s *Risk Management Plan - Dutch Boy Site*, USEPA Unilateral Administrative Order V-W-96-C-347

Dear Mr. Bradley:

The City of Chicago submits the following comments in response to NL Industries Inc.'s Risk Management Plan - Dutch Boy Site, dated July 1998.

City's Interest in the Dutch Boy Site Cleanup

The Dutch Boy Site lies within an approximately 160 acre tax increment financing district in the City known as the West Pullman Industrial Park Conservation Area. A map of the properties within the district is enclosed for your review. The District was formed last year as part of the City's overall brownfields redevelopment strategy aimed at returning this long blighted industrial area to productive use for the benefit of the surrounding community.

The City's goal is to assure that contaminated parcels within the district receive a level of environmental cleanup that is both protective of human health and the environment and adequate to attract new businesses to redevelop the area with viable commercial/industrial enterprises. As you can see from the enclosed map of the District, adequate and appropriate cleanup of the highly contaminated Dutch Boy Site is key, both in size and location, to securing the protection of the surrounding community's health and safety and being able to successfully redevelop the area.

While the City is attempting to work cooperatively with past owners and operators of contaminated properties whenever it can through initiatives like the Illinois Environmental Protection Agency's Site Remediation Program, it is the City's belief that, to the maximum extent possible, those responsible for polluting the area should pay the costs of cleanup. Where cooperation is not possible, the City has instituted litigation against polluters who refuse to clean up their environmental messes. The City has a lawsuit pending against NL Industries, Inc. and the Artra Group whose use of the Dutch Boy Site caused the property to become highly contaminated. In fact, information discovered by the City in its

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litigation provided the impetus for the issuance of the USEPA's Unilateral Administrative Order against NL Industries Inc. in 1996.

In addition, through the State of Illinois' tax reactivation process, the City came into ownership of the abandoned and tax delinquent Dutch Boy Site in December of last year. Therefore, as an active litigant against the polluters of the Dutch Boy property, as a local government attempting to revitalize the community through a Brownfield's redevelopment program, and as the property owner of the site, the City is extremely concerned with, and has a vital interest in, NL Industries Inc.'s proposed Risk Management Plan (RMP) and USEPA's response to that plan.

NL Industries Inc.'s RMP Does Not Eliminate the Threat of an Imminent and Substantial Endangerment to the Public Health or Welfare or the Environment.

Section 106 of CERCLA provides broad imminent hazard, enforcement, and emergency response powers. Specifically, section 106 authorizes,

> "...such relief as may be necessary to abate such danger or threat ... and such relief as the public interest and the equities of the case may require. The President may also ... take other action under this section including but not limited to, issuing such orders as may be necessary to protect public health and welfare and the environment." 42 U.S.C. § 9606 (Emphasis added.)

The City believes that NL Industries Inc.'s RMP, particularly in regard to the removal of lead contaminated soil, fails to provide the relief envisioned by section 106. The RMP does not adequately or appropriately eliminate the threat of endangerment for the following reasons:

1. The proposed cleanup goal established by the USEPA for lead in the soil at the Dutch Boy Site is 1,400 mg/kg. NL Industries Inc.'s selected alternative (Alternative 2) consists of a limited soil removal action, capping the unpaved soils, and leaving contaminated soils in place under paved areas. After this limited removal action, almost all of the lead-contaminated soil exceeding 1,400 mg/kg would still remain on the site.

The City's position is that all material exceeding the 1,400 mg/kg lead standard must be removed from the site. NL Industries Inc.'s proposal appears to be premised upon an assumption that it can impose or assure that pavement or other cap material will remain in place in perpetuity. However, since NL Industries does not own the site, it is not in a position to insure, through deed restrictions or otherwise, that capped or paved areas will not be disturbed, breached, or removed in the future. In fact, as discussed below in 2., there is evidence that the existing concrete is not an impervious barrier. Therefore, in the absence of any demonstration by NL Industries Inc. that it can assure that the caps and pavement will not be breached in the future, the RMP does not eliminate the threat of a release from the soil and is not protective of human health.

2. The Extent of Contamination Survey, dated November 19, 1997, (ECS) indicates that samples beneath the concrete slab were collected via a geoprobe down to the interface at the base of the fill. Some of the results were far higher than 1,400 mg/kg at depths of 0.2"- 1' (e.g., 5,900 mg/kg at SS26 and 6,700 mg/kg at SS28). In addition, some of the shallow samples (0"-0.2") on the slab are also high (e.g., 7,300 mg/kg a SS19, 16,300 mg/kg at SS27 and 8,300 mg/kg at SS28). It is unclear whether these samples are just below the slab or are from cracks in the slab. If the results are from cracks then the slab is not an impenetrable barrier and contamination removal beneath the slab is required.

3. Based on the sampling results, there is no reason for the depth of excavation to be the same for each area. For example, the excavation near SS10 need not be to the same depth as near SS12, etc. Why not consider varying the actual depth of excavation based upon the sampling results?

4. The logic for selection of Alternative 2 is less than clear. Under NL Industries Inc.'s proposal, approximately 50 percent of the material exceeding 40,000 mg/kg would remain on-site. Logic would appear to dictate that either all of this material or none of it should be removed. What is the logic for removing only 50% of it?

5. In the Executive Summary, the clean-up objective of 1,400 mg/kg is mentioned several times. However, the only utilization of the clean-up objective in the RMP appears to be that the cap for each alternative must cover the entire unpaved area. Why is there no alternative utilizing the clean up standard established by USEPA for the entire site?

6. The ECS also has a table correlating TCLP results with total lead values. Based on the results presented in this table, it can not be inferred that because a sample does not have total lead greater than 1,400 mg/kg that it will not fail the TCLP for lead and, therefore, still be considered hazardous. Thus, hazardous waste could still be left behind in both capped and uncapped areas as presented in the RMP. How does USEPA intend to deal with this issue?

7. The City, as the owner of the property, fully intends to market the property for redevelopment under a Brownfields program being funded, in part, with loan guarantees from the federal government. There is no doubt that the cap materials and areas of pavement will have to be removed for the property to be put back into productive use. There is no reason why any future owner would want to use the concrete that still exists on site for more than parking cars or trucks -- the concrete thickness is unknown (maybe 9"?), the type of reinforcing is unknown, its ultimate integrity based upon past uses is unknown, and there is a basement under part of it.

8. The ECS indicates the presence of "diesel range organics" and "gasoline-range organics"at a variety of sampling locations, but most notably near the USTs and the dock area. The RMP states that these compounds should not affect stabilization efforts, but these compounds should still be addressed from a clean-up standpoint utilizing the appropriate TACO standards.

9. The removal of the debris pile and the USTs is included in all the alternatives. Some criteria should be established for the removal of any contaminated soil associated with the USTs. The City suggests that NL perform confirmation sampling after the removal of each UST for the appropriate compounds based upon the UST's historic use (BTEX and lead for gasoline USTs, PNAs for oil or diesel USTs, etc.). The results of the confirmation sampling should be compared to IEPA's TACO standards for industrial/commercial facilities. If the results exceed the standards, the contaminated soil should be removed and resampling performed until all confirmation sampling results are below the industrial/commercial standards.

10. In regard to the debris, confirmation sampling of the soil under the pile needs to performed once the debris is removed to ascertain whether the soil is contaminated with asbestos. If contaminated the soil needs to be removed.

Not Only Does NL Industries Inc.'s RMP Not Eliminate the Threat of a Release, It Also Fails To Provide, "...Such Relief as the Public Interest and the Equities of the Case May Require."

It is not feasible to expect that a future site user can be attracted to develop the site in the state of contamination being proposed by NL Industries. The City did not cause the site to be contaminated and the City should not be required to bear the very substantial costs of having to remove contaminated soils exposed in the course of redeveloping the site. Requiring a potential future developer or owner of the site to bear those costs assures that the site will go undeveloped. Allowing NL Industries to proceed with its preferred alternative under the RMP would be tantamount to rewarding NL Industries for causing the site to become polluted and would fly in the face of Section 106's authorization to fashion such relief "... as the public interest and the equities of the case may require."

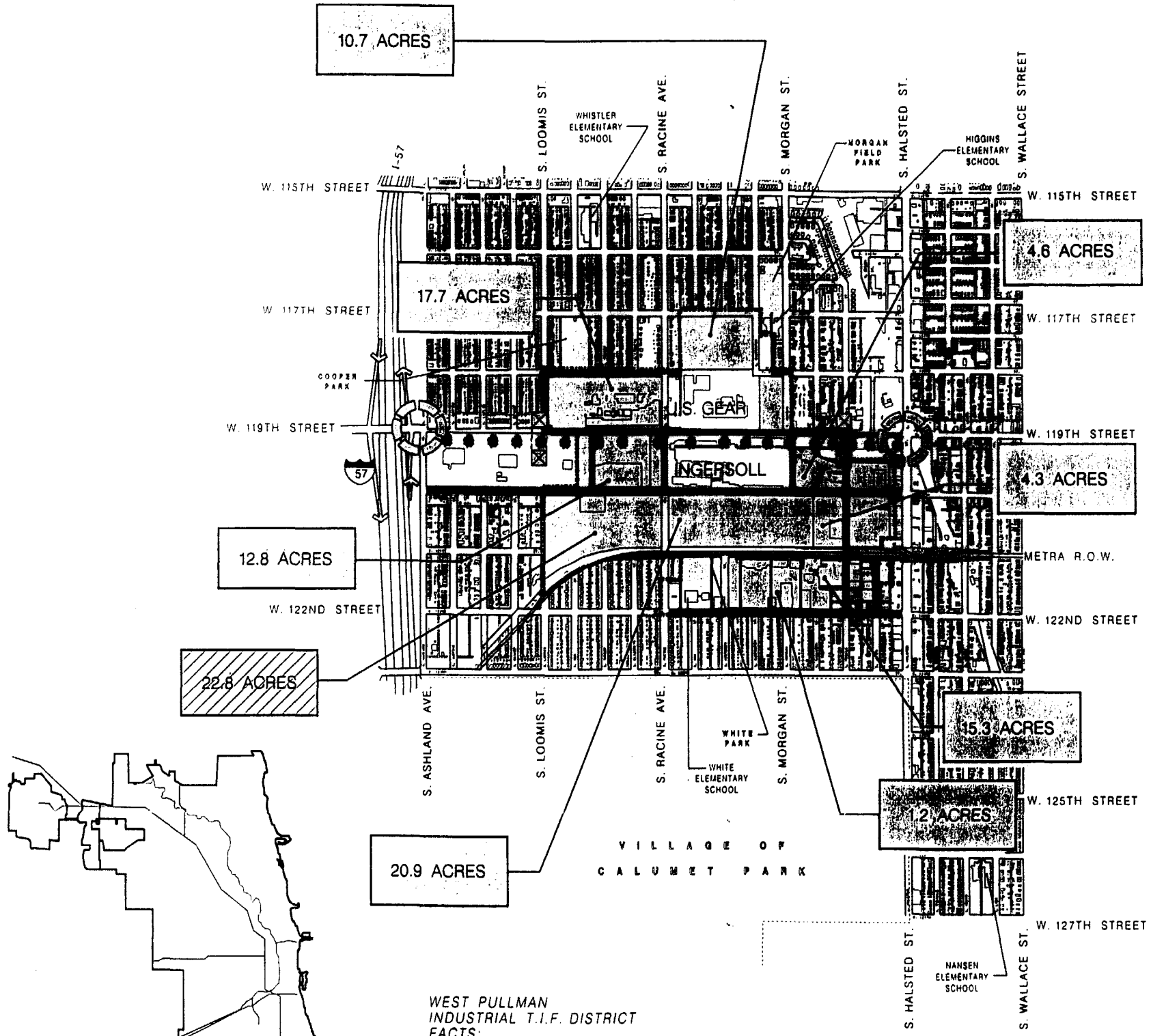
CONCLUSION

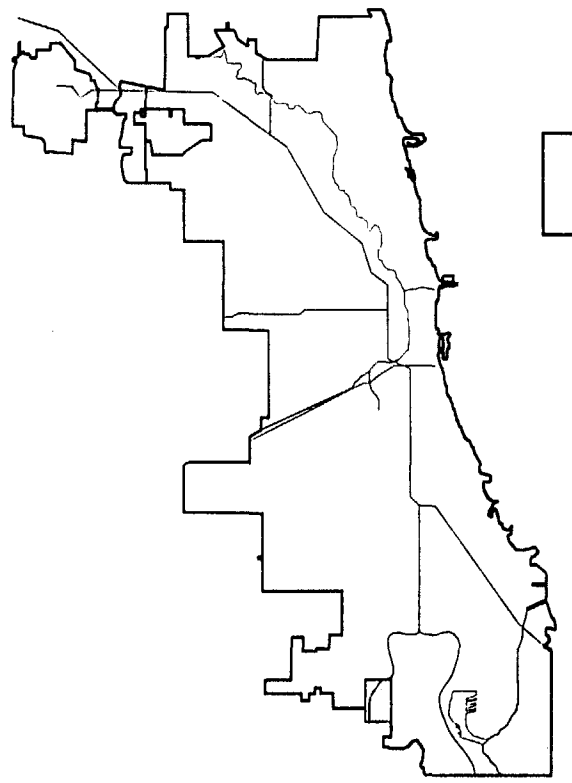
The RMP by NL Industries would leave the property highly contaminated, abandoned, and unusable. Such an approach is not consistent with Section 106 of CERCLA, the public interest, or the equities of the situation. The facts and circumstances of this case mandate that NL Industries Inc. remove from the Dutch Boy Site all soil contaminated with lead above 1,400 mg/kg, including all such material under the concrete slabs.

Respectfully submitted,

David Reynolds, P.E.
Deputy Commissioner, Brownfields Division
City of Chicago, Department of Environment

cc: Henry Henderson, Commissioner Department of Environment
Jennifer Muss, Mayor's Office Brownfields Coordinator
Susan Herdina, Deputy Corporation Counsel





WEST PULLMAN INDUSTRIAL T.I.F. DISTRICT FACTS:

- *DESIGNATED: MARCH 1998*
- *AREA: 210 ACRES*
- *WARD 34*

LEGEND

- INTERSECTION IMPROVEMENTS
- GATEWAY
- STREETSCAPING
- STREET RECONSTRUICTION
- REDEVELOPMENT SITE
- GREEN SPACE
- PUBLIC SCHOOL
- TIF BOUNDARY
- PROJECTS IN PROGRESS
- INTERSTATE ACCESS
- METRA STATION
- CITY LIMIT

SCALE: 0 400' 800' 1600' 2400'

N

WEST PULLMAN INDUSTRIAL T.I.F. DISTRICT

City of Chicago

August 1998

Richard M. Daley, Mayor

Christopher R. Hill, Commissioner
Department of Planning and Development

Prepared by:
Campbell Tiu Campbell, Inc.
Architects • Planners • Construction Managers